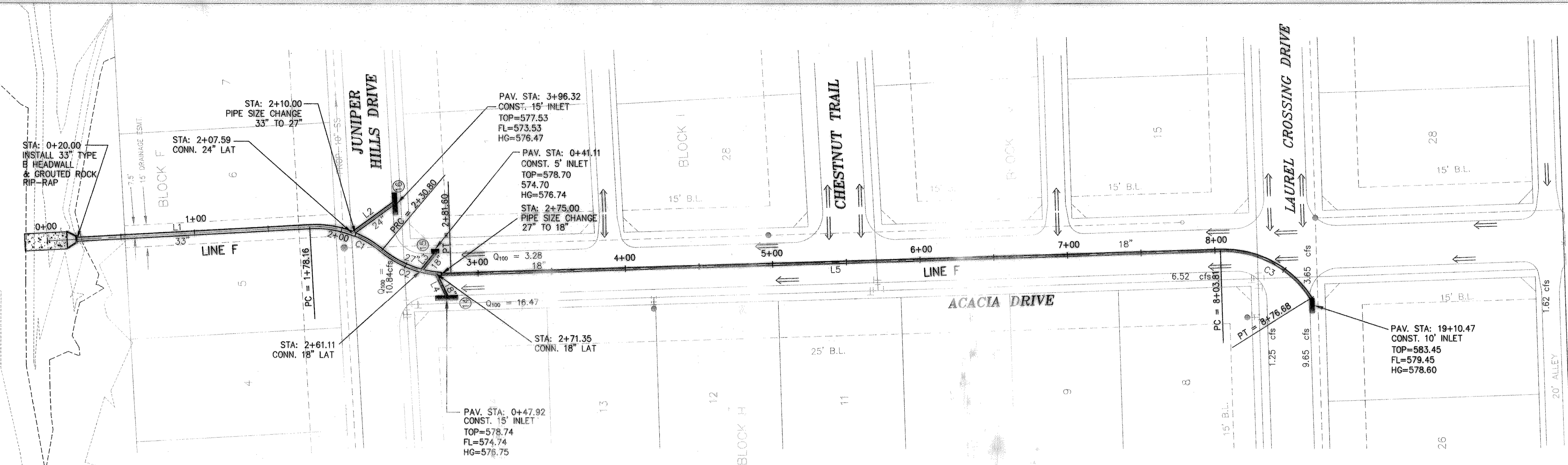


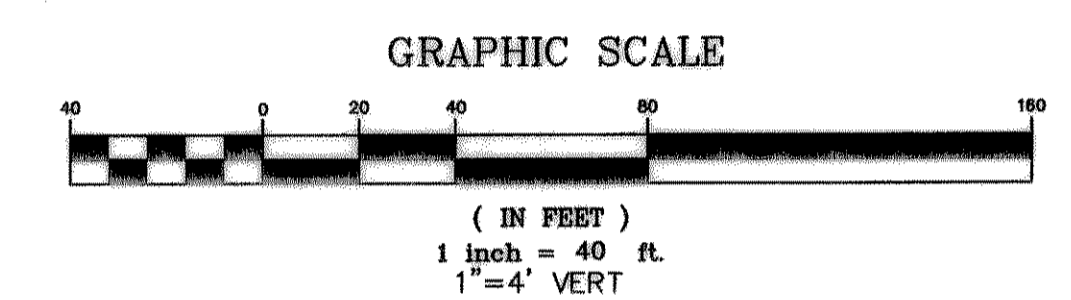
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II TEXAS P.E. NO. 60102 ON 2/9/01

DOUPHRATE & ASSOCIATES, INC.
 ENGINEERING - PROJECT MANAGEMENT - SURVEYING
 2231 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
 PHONE: (972)771-9004 FAX: (972)771-9006

STORM SEWER PLAN & PROFILE
LINE F
TIMBER CREEK ESTATES
 CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS



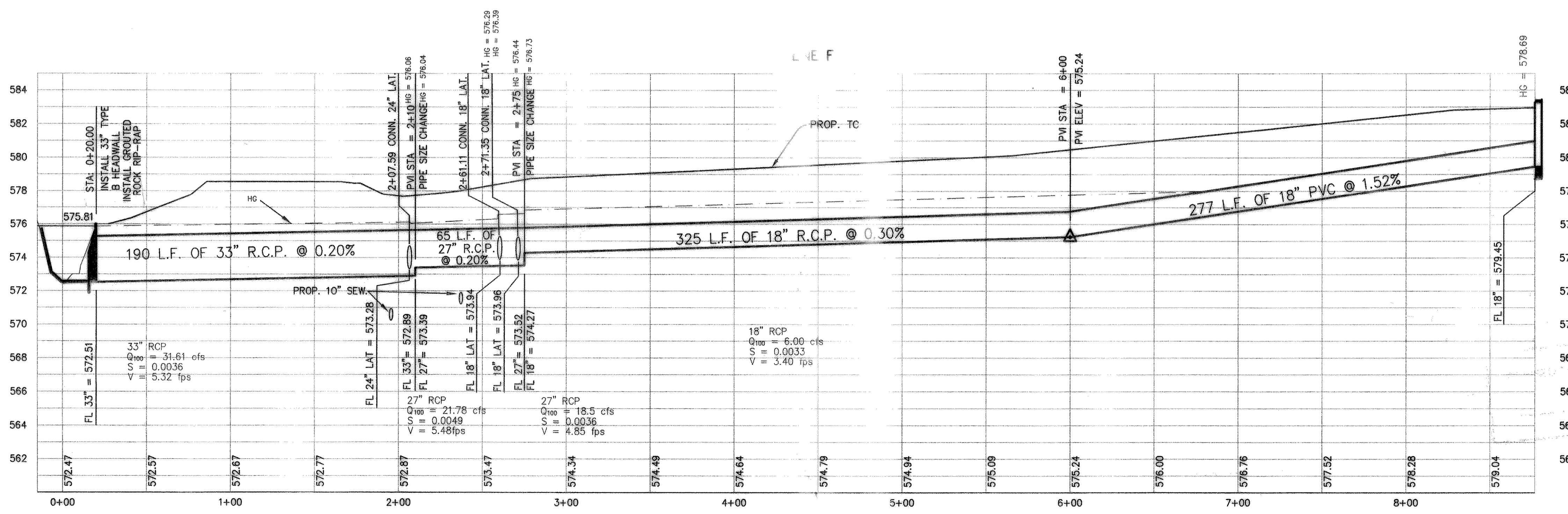
From	To	Length	Box Height	Box Width	DESIGN Q100	Pipe Size (in)	CAP Q100	FULL V	PARTIAL V	PARTIAL FLOW %	FLOW CHT. No.	K1	Flow R(R)	Flow R ² /3	Area	FULL S	DESIGN S	HGL Rise	HGL Number
STIM F																			Starting
	210.00	20.13	71.1		31.61	33	23.65	5.32	5.32	1.34	1.00		0.6875	0.7790	5.9396	0.0036	0.0020	0.2540	575.81
	Junction Loss																		576.06
	261.11	210	51.11		21.78	27	13.85	5.48	5.48	1.57	1.00		0.5625	0.6814	3.9761	0.0049	0.0020	0.2528	576.04
	Junction Loss																		576.29
	275.00	261.11	13.89		18.5	27	13.85	4.65	4.65	1.34	1.00		0.5625	0.6814	3.9761	0.0036	0.0020	0.0498	576.39
	Junction Loss																		576.73
	876.67	275	601.67		6	18	5.25	3.40	3.40	1.14	1.00		0.3750	0.5200	1.7671	0.0033	0.0025	1.9630	578.69
	LATERAL F	AT 207.59																	Starting
	Junction Loss																		576.06
	26.03	0	26.03		9.83	24	22.62	3.13	2.97	0.43	0.95		0.5000	0.6300	3.1416	0.0019	0.0100	0.0491	576.42
	Junction Loss																		576.47
	LATERAL F	AT 261.11																	Starting
	Junction Loss																		576.29
	11.95	0	11.95		3.28	18	10.50	1.86	1.63	0.31	0.88		0.3750	0.5200	1.7671	0.0010	0.0100	0.4396	576.73
	Junction Loss																		576.74
	LATERAL F	271.35																	Starting
	Junction Loss																		576.44
	18.88	0	18.88		12.5	18	20.80	7.07	7.43	0.60	1.05		0.3750	0.5200	1.7671	0.0142	0.0392	0.2674	576.39
	Junction Loss																		576.65



CURVE	LENGTH	RADIUS	TANGENT	CH BRG	CH DIST	DELTA
C1	52.64	70.00	27.63	N18°15'37"E	51.41	43°05'06"
C2	50.80	70.00	26.38	S18°00'44"W	49.69	41°34'51"
C3	72.87	70.00	40.13	N28°02'44"E	69.63	59°38'52"

LINE	LENGTH	BEARING
L1	178.16'	S03°16'56"E
L2	33.85'	N38°02'47"W
L3	15.28'	N50°44'19"W
L4	16.72'	N64°00'52"E
L5	522.20'	S01°48'41"E

REVISED TO CONFORM TO CONSTRUCTION RECORDS.
 [Signature] DATE: 5/23/03



REVISION
 W.L.D. CHECKED
 AC DRAWN
 02/01 DATE
 9913STM5 PROJECT
 72 OF